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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,445	01/22/2001	Uzi Sharon	153/01963	5079

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EXAMINER

FARAH, AHMED M

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/744,445

Applicant(s)

SHARON, UZI

Examiner

Ahmed M Farah

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-41 and 57-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-41 and 57-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-14, 20, 21, 26-4, and 57-60 are again rejected under 35 U.S.C. 102(b) as being anticipated by Zavislan et al. U.S. Patent 5,653,706.

As to claim 1, Zavislan et al. disclose dermatological laser treatment system and methods of use, the treatment system comprising:

an imaging subsystem (CCD camera 48; display 40; and monitor 26) that locates features on the skin to be treated (see Figs. 2- 4);

a laser system 20, which provides the treatment light;

laser optics (lens 68, focusing mechanism 69, and focussing lens 42) that focuses light from the laser onto a feature located by the imaging subsystem 48 (see Fig. 4 and Col. 6, lines 34-45); and

a controller 24, that when a feature is located, controls the laser to radiate a pulse of laser light that is focused by the laser optics to the treatment site.

As to the recitation the imaging subsystem 'generates images of the skin and determines responsive to the image if the region comprises a feature on the skin to be treated' in amended claims 1, 13 and 57, the imaging subsystem of Zavislan et al. meets

the recited element.

As to claim 2, the treatment system further comprises an illumination light 52 that illuminates regions imaged by the imaging optics (Col. 5, lines 6 1-63).

As to claim 3, Zavislan et al. use a single laser source, which provides laser pulses in the wavelength range of between 700 to 1300 nm (see claim 1). Hence, since their laser is operable to varying in wavelength over a given range, it is considered to be a tunable laser.

As to claims 4-7, the cross sectional area of the focused treatment light is relatively larger than the size of the targeted features. For instance, if the system is used to destroy endothelial cells in blood vessel, the spot to which the laser is focused is inherently larger than the area occupied by the skin feature being targeted.

As to claim 9, scan mirror 54 of the imaging subsystem scans an area of the skin and automatically locates the features on the skin to be treated (see Col. 3, lines 38-42; and Col. 6, lines 14-16 and lines 25-30).

As to claims 10 and 14, the imaging subsystem comprises at least one photosensitive surface (CCD video camera 48) and the imaging optics (optical element 54) are moved relative to the skin.

As to claim 13, the CCD video camera 48 inherently has a circuitry that receives and process signals generated by photosensitive to provide visual image of the desired feature.

As to claims 20 and 21, charged coupled devices (CCD) comprise semiconductor arrays (multiple photosensitive surfaces) in which charges are introduced when light from

a scene is focused on the surface of the device.

As to claims 26 and 27, the imaging optics comprises an objective lens system (focusing lens 42), which collects light from the treatment site, and an ocular lens (rear lens 44) that receives light collected by the objective lens system and images the received light on photosensitive surface (see Fig. 3).

As to claims 29, 30 and 35 the laser optics comprise a collimating lens 68 that receives light irradiated by the laser; an actuator (focusing mechanism 69), which moves (rotates) the focusing lens; and a reflector (beam splitter 54 which is also a part of the imaging subsystem) that reflects the collimated laser light towards the objective lens system (lens 42) so as to focus the laser light to a spot at the focal point of the objective lens system as presently claimed.

As to claim 32, the ocular lens system (lens 44) and at least one photosensitive surface (CCD camera 48) are positioned on a side of the reflector opposite to the side of the reflector on which the objective lens system is located. See Fig. 3.

As to claims 31 and 33, reflector 54 reflects the laser light towards the treatment site (behaves like a mirror); and partially transmits the light reflected from the tissue surface towards the CCD camera (behaves like a beam splitter).

As to claim 34, the ocular lens (lens 44) and the photosensitive surface are stationary with respect to the axis of rotation.

As to claim 36, the actuator (focusing mechanism 69 that is coupled to focusing lens 68) further moves the focusing lens back and forth and would provide a planar arc having a fixed length.

As to claims 37-41, the imaging subsystem (lens 44 and CCD camera 48); the light source (illumination light 52); the laser (optical fiber 22); the controller; and the power source are all mounted on handpiece 10. See Figs. 1-3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-19 and 22-25 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Zavislan et al. in view of Bolger et al. U.S. Pat. No. 5,437,290.

Zavislan et al., described above, do not use quadrature detector. However, Bolger et al. teach a medical system and method in which quadrature detection system is used to monitor the position and penetration depth of intraluminal catheter during vascular treatment. It is known in the art that quadrature components (i.e., amplifiers, detectors, etc) shift the phase of a signal 90°. It also known that such components are used with color television components such as CCD's. Therefore, it would have been obvious to one skilled in the art at the time of the applicant's invention to modify Zavislan et al. in view of Boger et al. and use quadrature detector in order to monitor out-of-phase signals reflected from the different tissues (targeted and un-targeted) at the treatment site.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ahmed M Farah whose telephone number is (703) 305-5787. The examiner can normally be reached on Mon-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M DVorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Farah,  
Patent Examiner/AU 3739



06/27/2004